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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/631,886	08/04/2000	Zhengxiang Ma	12-11	1995

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Docket Administrator Rm 3C 512
Lucent Technologies Inc
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EXAMINER

NGUYEN, DUC M

ART UNIT PAPER NUMBER

2685

DATE MAILED: 02/20/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/631,886

Applicant(s)

MA ET AL.

Examiner

Duc M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2, 4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 11/6/00 and 3/1/02 have been considered by the examiner.

Drawings

2. The proposed drawing correction filed on 11/13/00 has been approved by the examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims **1, 5-15** are rejected under 35 U.S.C. 102(b) as being anticipated by **Winters** (US 5,675,285).

Regarding claim **1**, **Winters** discloses a base station that uses Butler matrixes to evenly split a signal among several amplifiers, which would include all the claimed limitations (see col. 2, lines 10-53), comprising :

- digitally forming at least first and second composite signals (see Figs 2-4, col. 7, line 40 – col. 8, line 31), wherein the K and L outputs in Fig. 3 would read on the first and second composite signals as claimed.

- digitally pre-distorting the at least first and second composite signals (see Fig. 4, ref. 419 and 2-4, col. 8, lines 16-31), wherein the amplifier linearization processor for adjusting values would read on the "pre-distorting" as claimed;
- amplifying the pre-distorted first composite signals in a first amplifier (see Fig. 3, ref. 415-1);
- amplifying the pre-distorted second composite signals in a second amplifier (see Fig. 3, ref. 415-2);
- forming an amplified version as a function of at least the amplified first and second composite signals (see Fig. 4, refs. 413, 417 and Fig. 3).

Regarding claims 5-10, they are rejected for the same reason as set forth in claim 1 above. In addition, **Winters** discloses

- phase shifted version of at least two signals (see Fig. 3);
- transmitting over a first antenna and second antenna as claimed (see Fig. 4, refs. 417-1, 417-2 and Fig. 3).
- a digital first device as claimed (see Fig. 4, refs. 411 and 419);
- first and second amplifiers (see Fig. 4, refs. 415-1, 415-2);
- a second device as claimed (see Fig. 4, ref. 413 and Fig. 3);
- an RF section as claimed (see Fig. 4, refs. 401, 409, 407);
- the digital first device comprises a first and second pre-amplifier hybrid combiners (refs. 411), predistorters (refs. 419), first and second radios (see refs. 409, 401, 411, 419);

- a 90 degree hybrid combiner implemented in analog circuitry (see Fig. 3 and Fig. 4, ref. 413).

Regarding claims **11-15**, they are interpreted and rejected for the same reason as set forth in claims 5-10 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims **2-4, 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Winter**.

Regarding claims **2-4, Winters** discloses all the claimed limitations, see claim 1 above, except for the first and second diversity-encoded signals. However, since the use of two diversity-encoded signals for diversity transmitting is well known in the art, and since the system in **Winters** be able to transmit N-signals, it would have been obvious to one skill in the art to modify **Winter** for simply replacing the N-signals with N-diversity-encoded signals as well, for utilizing advantages provided by diversity transmitting such as signal improvement in fading or signal obstruction situations.

Regarding claim **16**, it is rejected for the same reason as set forth in claim 11 above. In addition, since **Winters** discloses a base station, it is clear that such base

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station would obviously comprise a receiver in order to receive signals from serving mobile stations, in order to provide a two-way communication system.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Martek et al (US Pat No. 6,522,897), RF radiation pattern synthesis using existing amplifier.

Khayrallah et al (US Pat No. 6,198,775). Transmit diversity method, system, and terminal using scramble coding.

Zehavi (US Pat No. 5,471,497), Method and apparatus for variable rate signal transmission in a spread spectrum communication system using coset coding.

6. **Any response to this action should be mailed to:**

Commissioner of Patent and Trademarks

Washington, D.C. 20231

or faxed to:

703-872-9314 (for formal communications intended for entry)

(for informal or draft communications, please label PROPOSED or DRAFT)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc M. Nguyen whose telephone number is 703-306-4531. The examiner can normally be reached on Monday-Thursday (9:30 AM – 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 703-305-4385. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Duc M. Nguyen
Feb 15, 2004

